REMARKS

Claims 1-24 and 26-43 are pending in the present application. The Examiner rejects all of the pending claims. Applicants herein make the minor change of inserting "pulp" for "paste" in paragraph [0034] of the specification and claim 40. No issue of new matter arises since, as the Examiner suggests, one of ordinary skill in the art understands "paste" means "pulp" in this context.

Objection to the Specification

The Examiner objects to the specification because it is allegedly unclear in paragraph [0034] what "paste" refers to and has been interpreted to refer to "pulp." The Examiner was not persuaded by Applicants' last explanations. Applicants herein change "paste" to "pulp" in each occurrence in paragraph [0034] which is paragraph [0050] of the published application, thereby rendering the objection moot.

Rejection under 35 U.S.C. 112, second paragraph

The Examiner rejects claim 40 under 35 U.S.C. 112, second paragraph because the meaning of "paste" is allegedly unclear. Applicants herein change "paste" to "pulp" in each occurrence (claim 40) thereby obviating the rejection.

Rejection under 35 U.S.C. 102

The Examiner rejects claims 1-3, 6-8, 10-13, 17-18, 22-25, and 32-43 as allegedly anticipated by Coleman, U.S. Patent 4,008,121. Applicants respectfully traverse. Coleman does not teach or suggest the presently claimed invention. Coleman teaches a way of producing multi-layer board or paper that is clearly different from the one presently claimed. Coleman teaches a method wherein a fiber layer is made using a headbox, or entrance box (1) and a forming section that includes a wire (2). The fiber slurry (A), with a consistency of about 1% or lower, is fed from the headbox onto the wire (2), and the fiber layer (a) is formed on the forming section. The pigment and/or starch is then fed onto the formed fiber layer, by spraying or by other means (x). Coleman may teach a method that is similar to the presently claimed method up to the stage of the process described above. (*See*, Figure 1, *infra*).

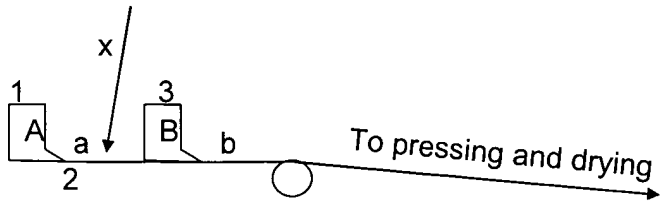

Figure 1. Scheme of the papermaking procedure disclosed by Coleman.

However, Coleman does not teach or suggest a second fiber layer according to the instant invention and the presently claimed process for obtaining the second fiber layer.

Coleman teaches that the second layer is formed onto the first fiber layer. The pulp slurry is fed out of a second headbox (3) as a pulp suspension onto the first formed fiber layer (a). The second fiber layer (b) is formed onto the first one. Thus, the dry content of the second layer is about or lower than 1% when it is applied on the first fiber layer, and all layers are formed in one forming section on one wire. Coleman teaches that *"...a suspension of pigment particles in a liquid binder is spread on at least one of the ply surfaces onto which the further plies are formed..."* The figures in Coleman show only one forming section, i.e. a wire, and several headboxes feeding the pulp suspension onto that.

On the contrary, according to the present invention, the second fiber layer (c) is independently formed on a second forming section. The pulp slurry (C) is fed out of a second headbox (3) onto a second wire (5) and formed on a second forming section. The second formed layer (c) is then brought onto the first layer and combined by pressing (6). At the combining stage, the dry content of both fiber layers is about 15%. (*See*, Figure 2, *infra*).

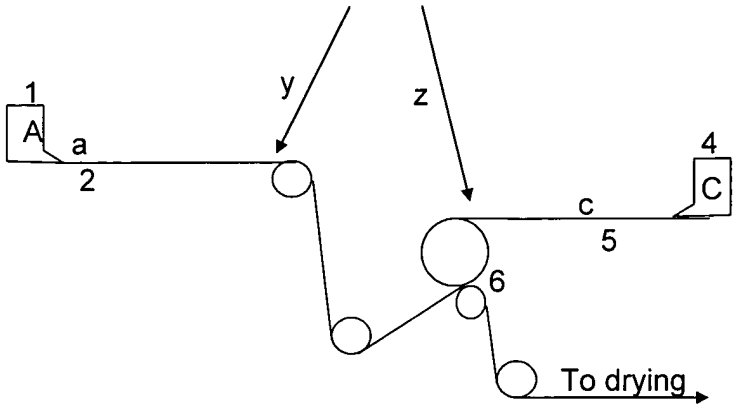

Figure 2. Process described in the present application. Places where pigment slurry can be fed is denoted with y and z

It is clear that the process described by Coleman differs significantly from the present invention. First, if Coleman's papermaking process was used with the present invention, all applied pigment would be drawn with the water when the second layer was dewatered through the first fiber layer. Thus, no improvement would be found. Second, using the method described by Coleman for applying pigment in the papermaking current process would result in no binding between the fiber layers, and the paper or board would delaminate immediately. Third, on a more complex board machine with several headboxes and forming sections, the method of Coleman would cover specifically a part or step of the process, while the methods of the present invention would cover others. (*See*, Figure 3, *infra*).

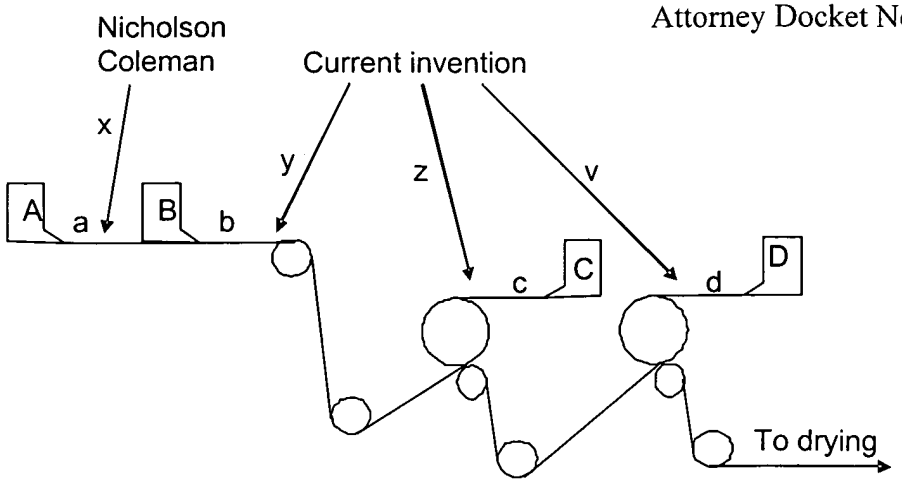

Figure 3. Scheme of a board machine with four headboxes. The addition points for pigments and/or starch and the corresponding patent is shown with arrows x, y, z and v.

In view of the foregoing, it is clear that Coleman does not teach or suggest the presently claimed methods.

Rejection under 35 U.S.C. 103

1. Coleman

The Examiner rejects all of the remaining claims 4-5, 9, 14-16, 19-21 and 26-31 as allegedly obvious over Coleman, U.S. Patent 4,008,121. The Examiner admits that Coleman is silent regarding the specifics of the distance of the introduction of the fillers, the angle inclination of spray nozzles, types of fillers, etc. However, the Examiner maintains that the specifics of the fillers including size distributions and different hydrates are well known and that it would be obvious to use them. Further, the use of sprays and the specific positions of the sprays is considered an obvious optimization.

Applicants respectfully direct the Examiner's attention once again to the explanations set forth above highlighting the differences between the presently claimed methods and the teachings of Coleman. Applicants reiterate that Coleman does not teach or suggest the presently claimed methods. As such, the Examiner has not set forth a *prima facie* case of unpatentability.

2. *Nicholson*

The Examiner rejects claims 1-17, 22-24 and 26-43 as allegedly obvious over Nicholson, U.S. Patent No. 2,286,924. The Examiner admits that Nicholson does not teach any specific filler additives or different size distributions of the same. However, the Examiner says such filler additives are well known in the art and that it would have been obvious to use them. Further, the use of sprays and the specific positions of the sprays is considered an obvious optimization.

Applicants respectfully traverse. Nicholson does not teach or suggest the presently claimed invention. Nicholson, like Coleman, teaches a way of producing multi-layer board or paper that is clearly different from the one presently claimed. Nicholson teaches a method wherein a fiber layer is made using a headbox, or entrance box (1) and a forming section that includes a wire (2). The fiber slurry (A), with a consistency of about 1% or lower, is fed from the headbox onto the wire (2), and the fiber layer (a) is formed on the forming section. The pigment and/or starch is then fed onto the formed fiber layer, by spraying or by other means (x). Nicholson, like Coleman discussed above, may teach a method that is similar to the presently claimed method up to the stage of the process described above. (*See*, Figure 1, reproduced again, *infra*).

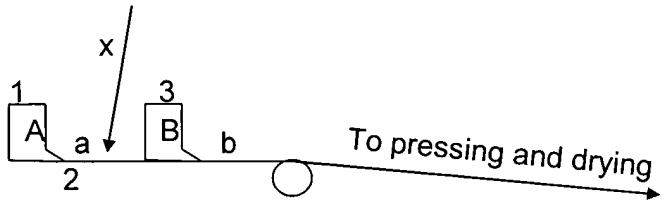

Figure 4. Scheme of the papermaking procedure disclosed by Coleman.

However, Nicholson does not teach or suggest a second fiber layer according to the instant invention and the presently claimed process for obtaining the second fiber layer.

Nicholson, like Coleman, teaches that the second layer is formed onto the first fiber layer. The pulp slurry is fed out of a second headbox (3) as a pulp suspension onto the first formed fiber layer (a). The second fiber layer (b) is formed onto the first one. Thus, the dry content of

the second layer is about or lower than 1% when it is applied on the first fiber layer, and all layers are formed in one forming section on one wire. Nicholson teaches that "*...flowing a quantity of thin aqueous adhesive solution upon the watery surface of said layer [...] immediately flowing an additional layer of cellulosic fibrous stock upon the water and adhesive loaded surface, dehydrating said superimposed layers simultaneously...*" The figures in Nicholson, like those in Coleman, discussed above, show only one forming section, i.e. a wire, and several headboxes feeding the pulp suspension onto that.

On the contrary, according to the present invention, the second fiber layer (c) is independently formed on a second forming section. The pulp slurry (C) is fed out of a second headbox (3) onto a second wire (5) and formed on a second forming section. The second formed layer (c) is then brought onto the first layer and combined by pressing (6). At the combining stage, the dry content of both fiber layers is about 15%. (*See*, Figure 2, reproduced again, *infra*).

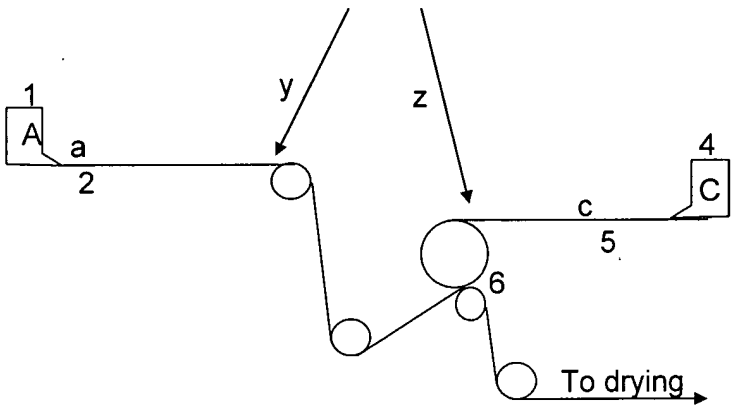

Figure 5. Process described in the present application. Places where pigment slurry can be fed is denoted with y and z

It is clear that the process described by Nicholson also differs significantly from the present invention. First, if Nicholson's papermaking process was used with the present invention, all applied pigment would be drawn with the water when the second layer was dewatered through the first fiber layer. Thus, no improvement would be found. Second, using the method described by Nicholson for applying pigment in the papermaking current process would result in no binding between the fiber layers, and the paper or board would delaminate

immediately. Third, on a more complex board machine with several headboxes and forming sections, the method of Nicholson would cover specifically a part or step of the process, while the methods of the present invention would cover others. (*See*, Figure 3, reproduced again, *infra*).

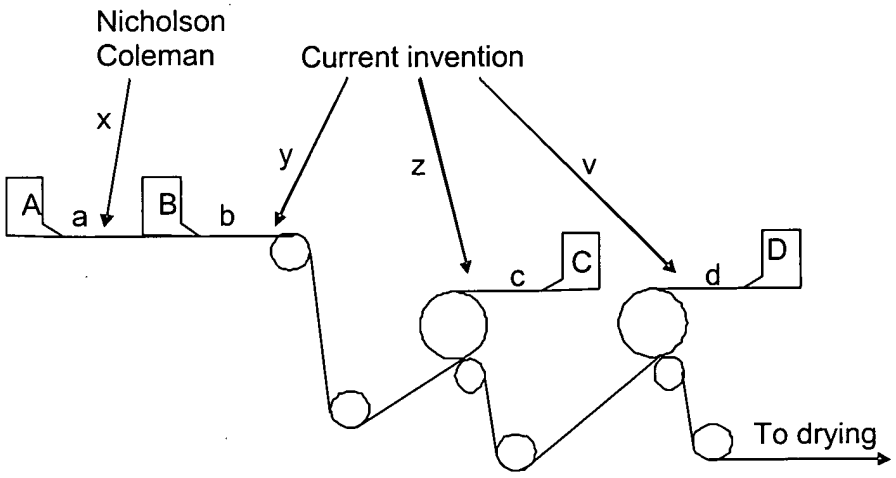

Figure 6. Scheme of a board machine with four headboxes. The addition points for pigments and/or starch and the corresponding patent is shown with arrows x, y, z and v.

In view of the foregoing, it is clear that Nicholson does not teach or suggest the presently claimed methods. As such, the Examiner has not set forth a *prima facie* case of unpatentability.

CONCLUSION

Entry of the foregoing amendments and remarks into the record of the above identified application is respectfully requested. It is believed that all of the claims are in condition for allowance. If any issue can be resolved telephonically, the Examiner is requested to call the undersigned at the phone number provided.

Respectfully submitted,

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